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INSTITUTING A FIRE SCIENCE PROGRAM AT SHASTA COLLEGE.

BY- BROOKS, WALTER L. KIELBART, RONALD F.

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A STRUCTURED INTERVIEW WAS USED AS THE INSTRUMENT IN A STUDY OF THE SHASTA COLLEGE SERVICE AREA TO DETERMINE THE NEED FOR ESTABLISHMENT OF A FIRE SCIENCE EDUCATION PROGRAM. THE RESEARCHERS IDENTIFIED SEVEN TYPES OF NONADMINISTRATIVE JOBS FOR WHICH SUCH A PROGRAM WOULD BE HELPFUL, BOTH AS PREPARATION FOR ENTRY AND AS A PART OF AN INSERVICE TRAINING AND UPGRADING PROCESS. THE STUDY COMMITTEE CONCLUDED THAT (1) A FIRE SCIENCE EDUCATION PROGRAM SHOULD BE ADDED TO THE COLLEGE CURRICULUM, (2) PRESERVICE AND INSERVICE TRAINING FACILITATES THE NEW EMPLOYEE'S ADVANCEMENT, AND (3) PRESERVICE TRAINING OFFERS VOCATIONALLY ORIENTED STUDENTS A GREATER LATITUDE OF CHOICE AND INSURES THE FIRE SERVICE AGENCIES OF MORE HIGHLY MOTIVATED EMPLOYEES. THE COMMITTEE'S RECOMMENDATIONS INCLUDED (1) PROVISION OF SUMMER PLACEMENT OPPORTUNITIES IN STATE AND FEDERAL FIRE SERVICE AGENCIES, (2) ESTABLISHMENT OF STANDARDS FOR ADMISSION TO THE PROGRAM, AND (3) INCLUSION OF, AS A PROGRAM OBJECTIVE, THE DEVELOPMENT OF ABILITY TO TRAIN AND DIRECT OTHERS IN THE PERFORMANCE OF FIREFIGHTING SKILLS. THE REPORT CONTAINS DESCRIPTIONS OF TYPICAL FIRE SERVICE JOBS, A COPY OF THE INTERVIEW FORM USED IN THE SURVEY, AND MINUTES OF THE PLANNING COMMITTEE MEETINGS. (WO)

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INSTITUTING A FIRE SCIENCE PROGRAM at Shasta College

June, 1967

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SHASTA COLLEGE

Walter L. Brooks
Vocational Counselor, Shasta College
Ronald F. Kielbart
Instructor, Fire Science, Shasta College
June, 1967

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INTRODUCTION

For several years college and fire service officials have conducted informal discussions on the appropriateness of instituting a fire science program at Shasta College. Three years ago the Bureau of Industrial Education of the California State Department of Education compiled some state-wide statistics on fire science programs. In the study authorized by the Bureau (Bush, 1964), it was found that most programs functioned in an in-service capacity. Courses were taken by employed firemen as a means of upgrading job skills and gaining promotional advantage. Although some pre-service programs were in operation, the study concluded that the entry potential was not sufficient to support an extensive pre-service program in most schools. The study seemed to caution junior colleges against moving into fire science programs without careful planning to determine the need for trained men in the local area.

It was also in 1964 that the decision was made to move the Shasta College campus to a rural area. Local fire service officials indicated that fire protection would be inadequate at the new location and that the move offered an ideal opportunity to consider establishing a fire science program. Such a program would have the duel function of training students and offering protection to the new campus. The saving to the school in insurance costs would help to offset the cost of instituting the program. Vocational programs must be based on their value to students, however, and not on their economic worth to the college. For this reason the planning for the program proceeded cautiously.

Initial planning was begun in August of 1965. School officials met with Mr. Ed Bent, State Fire Training Officer; Mr. Frank McCarthy and Mr. Ken Dennis, representatives of the State Fire Marshall's office; Mr. John Lockhart, State Division of Forestry; and Mr. Wilburn Grant, Fire Chief of the City of Redding. In this meeting (minutes of the meeting are included in Appendix I) it was decided that insufficient information on the needs of the area existed to make a decision on pre-service training. It was deemed more appropriate at this stage to contact fire service agencies in the area to find if sufficient interest existed to warrant offering any kind of training program beyond that offered by the agencies. As a specific point of departure, a course covering "Related Codes and Ordinances" was suggested as an in-service training offering for the Spring Semester, 1966. The results of the questionnaire indicated that interest among local fire protection agencies was high in both participating in the planning for a fire science program and in the suggested course. A second meeting of the group was held in September of 1965 in which plans for the course were finalized and the results of the questionnaire were reported and discussed (Appendix I).

In the following school year a fire science advisory committee was formed and other courses were offered on an in-service basis through the evening school. In addition, this present study was authorized to help school officials and the committee to determine the future character of the program.

CHARACTERISTICS OF FIRE SERVICE AGENCIES

Most of the municipal fire departments in the cities and towns served by Shasta College have less than fifteen paid firemen. Small municipal fire departments traditionally have a volunteer structure which they draw upon for emergency man power needs. These volunteers are also considered when an opening occurs in the ranks of paid firemen; consequently, a good deal of the pre-service training required by the department takes place in the volunteer organization. The question of what pre-service training function the community college can provide these municipal departments must be raised. If the volunteer organizations are sufficient to meet the pre-service training and manpower demands of the municipal fire departments it is unlikely that the community college can perform a worthwhile pre-service funtion.

The Shasta College service area is atypical in that a good deal of the fire service activity centers around protection from brush and timber fires. This requires far greater numbers of men in state and federal fire protection agencies than is ordinary. Since most fire science programs tend to focus upon the educational requirements of the municipal fire department, some modifications in the standard curriculum might be anticipated. It was quite important to take the characteristics of the fire service agencies Shasta College would serve into account when planning for this study.

PURPOSE OF THE STUDY

The critical question this study was designed to answer was whether or not sufficient need for trained personnel existed in fire

protection agencies to warrant establishing a pre-service training program in fire science. Several specific objectives were outlined to furnish the necessary data for answering this question. These objectives were:

1. To determine the number of men municipal fire departments required on a yearly basis.

2. To determine the number of men state and federal fire protection agencies required on a yearly basis.

3. To determine the similarities and differences in the training needs of the agencies with different fire protection roles.

4. To determine the advantages, if any, of obtaining training on a pre-service basis.

5. To make all agencies and departments aware of the new program being planned as an aid to future placement of students.

PROCEDURE

Shasta College has consistently approached the planning for vocational programs by determining the relationship of curriculum to specific job training requirements. The usual approach in this kind of study has in the past been to ask an employer to indicate the course work or training he would like a student to have completed before assuming the duties of the job. A review of the literature discloses that the employer is usually willing to be quite generous with the educational development of the prospective employee. We have felt at Shasta College that asking this of an employer puts him in the role of an educational expert and denies the educator the kind

of information he could make best use of--information about the nature of the jobs students will later hold. The first procedural step in carrying out this study was therefore the development of two short, standardized interviews; one to be used with the chief administrative officer in the fire protection agency being surveyed and the other to be used with an employee in each of the jobs in the agency which required fire science training to obtain or hold the job. The interview with the employee served to make clear the actual needs of the job as opposed to any general description which might be available. It further tended to point out any particular background or experience which might be important that could be overlooked if not discussed with the man actually holding the job.

In the interview with the administrative officer of the agency, general information on the jobs in the organization was gathered. This included the number of people working for the organization, the various job titles held by persons in the organizations, the minimum experience and skills required on the job, and information on placement in the various positions. In addition, information was gathered on certain related education which has been found important in the closely related police science program and recommended as elective courses by the State Department of Education. To insure that the greatest benefit would be derived from the initial contact with these agencies, it was decided that all interviews would be conducted by an instructor with responsibilities in fire science instruction. The counselor chiefly responsible for assisting vocational students in their educational planning would accompany the teaching staff member on several of the interviews and assist in analysing the data. The

record forms used in this investigation appear in Appendix II.

Once the standardized interview was developed, a list of fire service agencies to be contacted was compiled. While this list was composed chiefly of agencies within the Shasta College service area, some agencies immediately adjacent to the area which were not served by a college with a fire science program were also included. The list of agencies interviewed is shown in Appendix III.

RESULTS

The results of the interviews show the atypical fire service function of organizations in this area of the state. The first series of tables shows the total number of jobs related to the training which would be offered in the fire science courses. These jobs are grouped in three categories representing municipal, federal, and state agencies.

TABLE 1

Municipal

Job Title	Positions
Chief	8
Assistant Chief	4
Battalion Chief	1
Fire Marshal	3
Engineers	34

TABLE 2

State

Job Title	Positions
Ranger	3
Associate Ranger	3
Assistant Ranger	18
Foreman	49
Forest Fire Truck Operator	54
Fire Fighter (Seasonal)	133
Lookout (Seasonal)	3
Equipment Operator	5

TABLE 3

Federal

Job Title	Positions
District Ranger	7
District Fire Control Officer	7
Foreman	19
Fire Prevention Technician	19
Tank Truck Operator	25
Fire Control Technician	5
Fire Fighter (Seasonal)	60
Lookout (Seasonal)	10

Table 4 shows the openings occuring in year around jobs which students in the fire science program would have adequate training to hold. These jobs are not entry level jobs in all cases. They are all jobs which would be open to the student after minimum experience requirements had been fulfilled.

TABLE 4

Job Title	Positions Filled Last Year	Positions To Be Filled In Each Of The Next Two Years
Municipal:		
Engineers	9	8
State:		
Foreman	3	3
Forest Fire Truck Operator	16	11
Federal:		
Foreman	6	2
Fire Prevention Technician	2	9
Tank Truck Operator	6	7
Fire Control Technician	5	--
TOTAL	47	40

In the following section important elements of the jobs listed in Table 4 are described. For the purpose of this discussion, positions for different agencies which are similar are combined (for example: Tank Truck Operator for the U. S. Forest Service and Forest

Fire Truck Operator for the State Forestry). This information is not intended to be complete job descriptions; that information is included which is important in relating the fire science program at the college to these jobs.

Job Title: Forest Fire Truck Driver or Tank Truck Operator

Principal Duties and Responsibilities: "Under direction, to drive forest fire trucks, water supply trucks, or structural fire trucks of at least two-ton capacity and to operate the equipment during forest and structural fire fighting operations; to direct a pumper truck crew and, in fighting fires, to lead a fire suppression crew; to operate heavy motorized equipment; and to do other work as required."

"During the nonfire season, permanent Forest Fire Truck Drivers may also operate dump trucks, skip loaders, and other equipment on wildland development, protection or construction and maintenance projects." (California Department of Employment)

Relation of the Fire Science Curriculum: With the California Division of Forestry, this is the first job a fire service employee usually holds. (With the U. S. Forest Service, the number of entry level jobs is greater.) The pre-service fire science training would be quite important in assuring the applicant of selection for this job. A person who had completed the fire science courses would already be quite familiar with the operation and maintenance of a fire truck and the various pumps he would use. He would more than likely have his operators permit for the vehicle he would drive. Summer experience on a fire crew with either the State or Federal Forest Service is essential to securing this position on a full-time basis.

Job Title: Fire Prevention Technician

Principal Duties and Responsibilities: This job is limited to the U. S. Forest Service; according to the qualification standards this person "serves as a prevention assistant to the District Fire Control Officer and in this capacity contacts local residents, recreationists, loggers, sawmill operators cooperators, resorts, other protection agencies, and other forest users in the area for the purpose of correcting fire hazards or taking required precautions to explain the importance of fire prevention for the continued use of forest resources, and to enlist their cooperation in preventing fires and to make arrangements for their recruitment and services as needed during fire emergincies. Issues campfire, burning, welding and blasting permits in accordance with regulations. Attends group meetings and visits public schools to show fire prevention films and give talks to emphasize the importance of fire prevention. Explains how each person can be an active fire "preventer". Distributes and explains fire prevention literature to all kinds of forest users."

"As part of district prevention program, prepares or assists in preparation of exhibits for fairs and other public gatherings, etc. Posts fire prevention signs as required in the unit master fire sign plan." (U. S. Forest Service job specifications)

Relation of Fire Science Curriculum: The knowledges and skills developed by the Fire Science Program would be essential to performance of the duties of this job. In discussing this job with Forest Service personnel, it was found that even with pre-service training some seasonal experience in one of the seasonal Fire Control Aid jobs would be necessary before the applicant would be considered. The minimum would be one season's experience in one of the seasonal jobs.

Job Title: Engineer

Principal Duties and Responsibilities: Under supervision, to respond to fire alarms and other emergency calls to protect life and property; to drive and operate pumping engines, aerial ladder trucks and similar fire protection automotive equipment; to participate in fire prevention, station maintenance and training activity and to do related work as required. Typical tasks would include rescue, entry, ventilating and salvage work; operating equipment and otherwise assisting in the suppression of fires and protection of life and property; operating resuscitators and administering first aid; after the fire has been extinguished performing cleanup and overhaul work and checking, testing readiness for further alarms; assisting in maintenance of fire apparatus and equipment and fire station and grounds; responding to emergency calls; participating in training and instruction programs by individual study of technical material and attending scheduled drills and classes.

Relation of Fire Science Curriculum: It was found that a small percentage of the volunteers tended to take regular jobs with the departments of this area. Men are usually selected for this job on the basis of an interview and general aptitude and physical agility tests. While men are presently hired by the municipal departments of the area without previous experience, when two applicants are otherwise qualified department officials have indicated they would select the applicant with pre-service training. The curriculum is suited to municipal departments since the fire science curriculum was specifically developed for this kind of service, the

program would have considerable advantage over any untrained applicant when applying for a job with a municipal fire department.

Job Title: Forestry Foreman or Fire Control Officer

Principal Duties and Responsibilities: "Under direction, to have charge of a forest fire station and the work of a crew of forest firefighters and others engaged in forest fire control and other wildland development or protection programs or local responsibility fire protection, and in construction and maintenance operations; be responsible for the management of station quarters, equipment, and supplies; or have charge of the ranger unit warehouse; or serve as assistant or relief dispatcher in a ranger unit or district headquarters; and to do other work as required."

"During the fire season the primary duties of the Foreman are training his crew and fighting fires. He may have full responsibility for the control of small fires. During the winter season the emphasis is on repair and maintenance of facilities such as roads, telephone lines, and small structures. (Although the above information is abstracted from specifications for the State Forestry Foreman the corresponding Forest Service job is quite similar.)

Relation to Fire Science Curriculum: Education beyond high school may be substituted on a year for year basis for qualifying experience. Knowledge and skills acquired in the course work of the Fire Science curriculum are essential to the job. The foreman needs to know fire suppression methods, equipment, terminology and fire laws. Interviews with persons presently holding this position with the State Division of Forestry indicate that full-time employment as a

Forest Fire Truck Driver for two years is the most common method of securing this position. The fire science background could help reduce this experience requirement and place the applicant in a favorable position on the promotion roster. With the U. S. Forest Service, holding any of the Fire Control Aid or Technician jobs would serve the same purpose.

CONCLUSIONS

1. Pre-service training in Fire Science allows the new employee to advance more rapidly on the job: Most fire protection agencies require full-time employees to be twenty-one years of age or older as a condition of employment. They also allow a year for year substitution of experience up to three years. In addition, the tests required for advancement closely parallel the course work in Fire Science. It would therefore seem quite advantageous for the recent high school graduate with an interest in fire service to spend these early years, when his earning potential and his expenses are the lowest, to gain the skills which will be of greatest benefit later on. While some of this training and employment advantage could be gained in a volunteer organization, it is unlikely that becoming a volunteer would offer the same advantages. First, as a volunteer fireman the training program would not be as intense. Consequently, the amount which could be learned in the same period of time would not be as great. It is also likely that the training which is received would be more related to the specific job in the volunteer organization. A second disadvantage of preparing for the fire service as a volunteer rather than in pre-service training is the limited employment opportunity. As a volunteer the opportunity for

employment in one municipal fire company is better. It does not appreciably increase the opportunity in other municipal organizations or in federal or state service where entry level jobs are more plentiful. This does not mean that there is no advantage to being a volunteer fireman. On the contrary, it would be quite advantageous to all students to attempt to affiliate themselves with some fire service organization where practical experience could be obtained. Volunteer experience is quite useful, but its advantages for the recent high-school graduate are increased when combined with a pre-service fire science training program.

2. Pre-service training offers the vocationally oriented student a greater latitude of choice and insures the fire service agencies of more highly motivated employees: In traditional school systems only those students who planned on professional level training had a wide latitude of choice. Pre-service occupational training gives the same advantage to students with technical and occupational level objectives. There is a hidden advantage in this for the fire service. When a man is hired for a job without previous affiliation with the fire service, it is not known whether he has chosen the occupation out of interest or economic need. When a student has chosen a field and spent two years preparing for work in that field he would seem much more likely to become a satisfactory employee.

3. Students considering a career with a state or federal fire protection agency should plan on summer employment on a fire suppression crew with that agency: While the program at the college is an adequate pre-service training experience with municipal agencies

seasonal experience with a fire crew is a necessity before full-time employment is secured with State and Federal agencies. It is quite important that the student be informed of this at the outset of his enrollment in fire science courses to assist him in making his planning realistic. Such an experience would be good for the student. He would be able to test his own ability to live in an isolated area with restrictions placed on his liberty of movement.

RECOMMENDATIONS

The following recommendations are based on the findings of the study. It is believed that they warrant the attention of school officials and the Fire Science advisory committee:

1. It is recommended that summer placement opportunities be developed for Fire Science students with State and Federal fire service agencies. Since a good number of the available job opportunities for students in this major are with these agencies, and since seasonal experience is either a specific requirement or highly recommended by the agencies for most of these jobs, some attention should be given to summer placement. Since the demand for fire crewmen is high during times of extreme fire danger, some mutually beneficial arangement should be possible. It would not be necessary to porvide this experience for all students; many students would quite likely prefer work with a municipal agency. Instructors should be acquainted with the vocational objectives of the student and recommend summer employment on a fire crew for those who would need it.

2. It is recommended that some screening take place before admitting students to the program: Most of the departments contacted have

rather exact physical standards for employees. Legislation is now pending which would establish state-wide standards for men entering the fire service. The students should be informed of this standard and directed to another major when they fail to meet with the minimum.

3. It is recommended that students planning a career with a State or Federal agency include the course in Natural Resources Mechanics in their program: It was found that most agencies used fire crews in maintenance work during the winter months. A knowledge of basic tools, construction methods, equipment operation, the repair of small engines and basic welding would be valuable skills to take to the first job and would increase the likelihood of year around employment.

4. It is recommended that the ability to train and direct others in the performance of fire fighting skills be made a basic objective of the Fire Science program. Proficiency in fire fighting skills is a necessity for students with this major, but if the program is to be of real benefit it must go beyond preparing the student to perform. Even at the entry level, all full-time California Division of Forestry employees and a high proportion of Municipal and U. S. Forest Service employees act as first line supervisors for temporary employees or volunteeers. This has important implications for the Fire Science curriculum. The student cannot be considered adequately prepared for employment in the fire service when he understands what is being taught. He is not really prepared until he is capable of passing on elementary firemanship skills and directing others in the performance of their duties. It is felt that unless this is recognized by the school and provided for in the instructional program, graduates will not be adequately prepared to compete for the available jobs.

APPENDIX I

MEETING OF THE FIRE TRAINING PROGRAM PLANNING COMMITTEE
SHASTA JOINT JUNIOR COLLEGE DISTRICE
MONDAY, AUGUST 16, 1965

MINUTES

The first meeting of the Shasta College Fire Training Program Planning Committee was held on August 16, 1965 at 9:00 A.M. Present were:

Mr. Ed Bent	- Fire Training Officer
Mr. Frank McCarthy	- State Fire Marshall's Office
Mr. Ken Dennis	- Deputy State Fire Marshall
Mr. John Lockhart	- State Division of Forestry
Mr. Wilburn Grant	- Fire Chief, City of Redding
Dr. Gilbert Collyer	- President-Superintendent, Shasta College
Mr. Milton Black	- Dean of Instruction, Shasta College
Mr. Art Thompson	- Coordinator of Industrial Education
Mr. Lloyd Livingston	- Associate Dean of Instruction, Shasta College

Dr. Collyer discussed the possibility of a Fire Training Program at Shasta College and stated that this was not the first thought that had been given to such a program, it has been discussed for the past 6 or 8 years. In-service training is very important but pre-service training should also be considered. He then stated that actual physical space may pose a problem. The instructional and educational problem now, is relating fire facilities at the new college to the Fire Training Program.

The question was then raised as to the need for this program. Do we have a need? It was suggested that a survey be conducted to determine whether a day or night program is needed, if any. It was further mentioned that architects, engineers, contractors, inspectors, etc. all need fire science requirements.

The first problem was definitely need; can we draw enough people? where do we draw from? Another problem was teachers. There are not too many qualified instructors in this field in our area. If we had an evening in-service program, a special course could be offered. Mr. McCarthy of the State Fire Marshall's Office, stated that he could definitely help out in this area and that there would be no worries there. The third problem was placement; can the students be placed? Equipment was also mentioned as a problem; can equipment be obtained? Where?

It was then suggested that possibly an evening class or two be started the second semester of this year. Specialized programs would be taught

only. It would be a pilot program teaching the needs of this area today. If and when this program is set up, the courses should be standardized statewide. Mr. Bent mentioned that courses of study are avialable or would soon be available for all the courses.

It was brought up that a questionnaire be set up immediately so that an application for VEA could be sent in and we might obtain money to help with this program.

It was then stated that a regular classroom could be used for specialized classes except where equipment is needed. Later it was mentioned that it might be possible to go to the local fire station for equipment training.

The general consensus of opinion regarding pre-service training was that it should be forgotten for the present and that the goals should be aimed at in-service training classes and encourage others to work into it.

A question was raised as to whether or not it would be possible for regular firemen to be excused from regular duty to attend these classes. It was generally felt that this would be possible. The program would be aimed at receiving the AA degree but not in the normal two year period.

Mr. Lockhart, from the State Division of Forestry stated that the Forestry Service trains their own men for fire training. He did state that there was a need for a fire training program in our schools.

Mr. Bent then suggested that a kick-off course for the spring could be Related Codes and Ordinances. Everyone was in general agreement.

The subject was then brought up that an Advisory Committee be set up consisting of from 5 to 7 members and that representatives from the state and local fire departments and a member of the volunteer fire department be included in this committee.

Ed Bent, Art Thompson and Lloyd Livingston will work up a questionnaire. It will be submitted to the others present for suggestions and discussion before sending it out.

Another idea was mentioned that we could have an Instructional Training Program, then people could be drawn from this to help with the program.

The following outline for the survey was suggested:

I. Opening Statement
II. Need
III. Interest
IV. Numbers Involved (numbers on shift basis)

It was mentioned that eventually the new college could own its own equipment and have its own station. This could benefit the college by lowering the insurance rates and in this way it would also be helping to pay for the equipment.

It might also be possible to have a work experience program started later on.

MEETING OF THE FIRE TRAINING PROGRAM PLANNING COMMITTEE
SHASTA JOINT JUNIOR COLLEGE
SEPTEMBER 29, 1965

The second meeting of the Fire Training Program Planning Committee met on September 29, 1965 at 1:00 P.M. in the Conference Room at Shasta College.

CALL TO ORDER — The meeting was called to order by Lloyd Livingston at 1:10 P.M.

Members Present	Members Absent
Ken Dennis	Art Thompson
Gary Cooper	Milton Black
Dr. Collyer	Roger Green
Lloyd Livingston	Frank McCarthy
Bob Nichols	Ed Bent
Jim Erberich	Wilburn Grant
John Lockhart	

Guests
Tom Rudbach - Sacramento

QUESTIONNAIRE — Lloyd Livingston summarized, for the committee, the results of the questionnaire that was sent out September 2, 1965. It was decided that there seemed to be sufficient interest to begin planning a Fire Science Program.

INSTRUCTOR NEEDED — The instructor must have a teaching credential. Mr. Cooper stated that the requirements are four years of experience or a college education. You could teach, however, at the junior college with a Class D or an Adult Education Credential.

Gary Cooper stated that a course would be offered at Shasta College this semester by the University of California entitled Methods of Teaching Adult Education.

It was suggested that Ken Dennis be used as an instructor. It was felt that a local instructor could better organize the course. Mr. Dennis was willing but would have to talk to his employer to be sure of his free time.

TIME COURSE OFFERED — Chief Erberich pointed out that the course be offered on two successive evenings a week so that all the men in the fire departments could attend. He described the general work schedules of the men and how it would be easier if they could attend either night.

Mr. Dennis was asked what days were preferable to him if he were instructor. He said probably Monday and Tuesday. Gary Cooper mentioned the best way to determine the days to offer the course would be the pre-enrollment announcement.

UNITS AND GRADES

Units must be given if an A.A. degree is the ultimate goal. Units must be given if grades are. However, it would be possible to take the course for no credit by a statement at the end of the course.

Gary Cooper stated that most 2 unit courses were held one night a week for 3 hours and the 3 unit courses were held 2 nights a week for 2 hours.

Chief Erberich wanted to know if it would be possible to enroll in the class and attend only during certain lecture sessions. Mr. Cooper said this could be worked out.

FACILITIES

All that would be needed for this first course would be a regular classroom.

TEXTS

Gary Cooper said the bookstore could handle all sales, etc. and this would eliminate the instructors having to do it.

ADDITIONAL COURSE OFFERINGS

It was suggested that the next in-service course might be Arson. This could be offered in the fall. There are many interesting and varied courses that could be offered for a long range Fire Science Program.

Tom Rudbach mentioned the fact that these courses should be offered only every two or three years to be sure that enrollment is up.

PROMOTIONS IN FIRE DEPTS.

Chief Erberich mentioned the possibility of these courses as a promotional requirement. It would up-grade the Fire Departments and the men.

POSSIBILITIES OF HIRING

Dr. Collyer brought up the question of age limits of firemen and forestrymen. Eighteen is the minimum age for the Fire Department and sixteen for the Forestry. They can handle the responsibility.

Mr. Nichols wanted to know if these courses might help the boys get jobs in these departments. Some courses might but this first course offered probably would not.

Dr. Collyer said that it would be at least 5 or 6 years before we saw the results of this program. Could we place the students? The average graduating class might be 12 or 15 students. Chief Erberich stated that at present each year in this area at least 10 men are hired and this need will grow so there would be no problem in placement.

PRE-SERVICE PROGRAM

The question as to the need for and justification of a two year program was brought up. Dr. Collyer stated that this could not be realized at least until 1967 or 1968 but we should begin to consider it now. There will be a Vocational Education Project Application done requesting funds to start a more complete study of the Fire Science Program.

TITLE OF PROGRAM

It was decided that the program be entitled Fire Science.

FUTURE PLANS

Gary Cooper, Ken Dennis and Lloyd Livingston will meet to plan for the course offering in Related Codes and Ordinances.

ADJOURNMENT

The meeting was adjourned at 2:30 P.M.

APPENDIX II

Fire Science--Employer or Supervisor Interview

1. How many men in your organization need fire science training to successfully perform their duties? _____

2. Could you list the different job titles your organization has where fire science training is necessary in performance of the duties. (This excludes office help where experience or training is not required.)

List: (top job first)

1. _____ (how many employed in each job?)
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

3. What specific college training in fire protection or background experience do you require in each of the various positions we have listed? Start with the first position.

List: (Refer to above No.)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

4. Which of these positions listed require four years of college?

4. What equipment or machines, including business machines, is the employee required to understand, operate, or maintain?

Machine or equipment	Employee responsibility

Questions on Employment outlook:

1. How many of these jobs have you filled in the past year? (Show job number and the number hired)

2. What is the outlook for new openings in the next two year period? (Show position and the number to be hired.)

Reasons why we would hope you would look to Shasta College in the future as a source of new employees:

1. We will have seen the boy's work for two years and can help you evaluate.

2. The boy will have demonstrated he can stick with a program for two years; this will tell you something about his reliability and interest in fire science.

3. He will have had a good basic training program-our grading policy will give you an indication of what he is capable of doing. Explain grades:

5. Can education be substituted in part for any of the above experience requirements?

(List by number, show course or courses which will substitute)

_____

_____

_____

_____

_____

Related education: "Some of your employees are likely to need skills in addition to those gained in fire science training. I have some questions on additional skills an employee might need. I would like you to tell me in which job these skills might be needed and in which it would just be desirable.

1. In which of the jobs we have discussed is the employee required to submit written reports? (Specify job number--get copy of form or describe the nature of report)

_____

_____

_____

_____

_____

2. In which job is the employee required to keep a set of books or understand an accounting procedure?

_____

_____

3. In which job is the employee required to have direct contact with the public? Could you describe the duties?

_____

_____

_____

_____

Interview Record Form

(Employee)

A. Job Title or Name:_____

B. Present Methods and Procedures of Work:
   1. Duties and tasks worker performs:_____

      _____

      _____

   2. Supervision received and given:_____

      _____

      _____

   3. Job relationships other than supervision:_____

      _____

      _____

   4. Materials, supplies, and machines the worker uses:_____

      _____

      _____

C. Working Conditions:
   1. Place of work--describe (inside--outside, etc.):_____

      _____

      Dangerous or harmful aspects:_____

   2. Day, week and hours of the work period:_____

   3. Amount and method of pay:_____

   4. Opportunities for promotion or advancement:_____

   5. Fringe benefits: health plan_____, Vacation_____

      retirement_____, other:_____

D. Methods of selection for the position:
   1. Tests:_____
   2. Interview:_____
   3. Transfer or promotion:_____
   4. Other:_____

QUESTIONNAIRE DERIVED FROM PRELIMINARY PLANNING OF FIRE SCIENCE COMMITTEE

The purpose of the questionnaire is to determine if a program or courses in Fire Training is needed in this area.

Would you check the answers to the questions on this card and return it to Shasta College.

	(TOTALS) Yes	No
1. Is there a need for a Fire Training Program?	22	1
2. Would you be willing to assist in developing such a program if called upon?	19	2
3. Would you and/or your department participate in in-service training courses?	15	5
4. If a course "Related Codes and Ordinances" were offered in the Spring Semester, how many people might be interested in taking it?	91	
5. How many people in your department:		
a. Volunteers?	243	
b. Regulars?	288	

6. Comments:

Name:_____

Representing:_____ Address:_____

APPENDIX III

ORGANIZATIONS INTERVIEWED IN THIS SURVEY

Municipal

Anderson Fire Department
Chief George Williams
Anderson, California

Cascade Fire Department
Redding, California

Central Valley Fire Department
Chief Loid Bellus
Box 456
Central Valley, California

Enterprise Fire Department
Chief James Erberich
Hartnell Avenue
Redding, California

Herlong Fire Department
Chief Dolan
Herlong, California

Red Bluff Fire Department
Chief W. Whitt
Red Bluff, California

Redding Fire Department
Chief W. W. Grant
1335 Shasta Street
Redding, California

Susanville Fire Department
Chief Eber Bangham
Susanville, California

Weaverville Fire Department
Weaverville, California

Westwood Fire Department
Chief Morris Hertzig
Westwood, California

State

California State Division of Forestry
William Siler, State Ranger
604 Highway 99E
Red Bluff, California

California State Division of Forestry
John Lockhart, Ranger
1050 Parkview Avenue
Redding, California

California State Division of Forestry
Lassen-Modoc
N. F. Nicholson, Ranger
Highway 36, Box 910
Susanville, California

Federal

Big Bar Ranger District
Johnny Brewer, Ranger
Helena, California

Coffee Creek Ranger District
Edmond L. Richardson, Ranger
Trinity Center, California

Hayfork Forestry
Hayfork, California

McCloud Forestry
McCloud, California

Mt. Shasta Forestry
Mt. Shasta, California

Shasta Lake Ranger District
Vern E. Smith, Ranger
P.O. Box 1016
Project City, California

Weaverville Forestry
Weaverville, California

Yolla Bolla Ranger District
Ray Weinman, Ranger
Plating, California

REFERENCES

1. Bureau of Industrial Education. Uniform fire science curriculum. Sacramento: California State Department of Education, 1965.

2. Bush, Loren S. A study of the fire science program in junior colleges from the fire service view point. Sacramento: California State Department of Education, 1965.

3. California State Department of Employment. Occupational Guide.

4. Fire Training Officers' Workshop, 1966. Suggested physical agility program. Sacramento: California State Department of Education, 1966.

5. Joint Committies on Professional Standards, Education, and Training. Minimum standards. California Fire Chiefs' Association, 1966.